WHAT IS CLAIMED IS:

1. A driving apparatus for an alternating-current motor comprising: an inverter using direct current as input and alternating current as output; an alternating-current motor driven by the alternating current; a magnetic pole position detector for generating a magnetic pole position sensing signal of the alternating-current motor; a trapezoidal wave modulator for generating a plurality of trapezoidal wave signals having at least two constant levels within one period, based on the magnetic pole position sensing signal; a quasi-sinusoidal wave modulator for generating a plurality of quasi-sinusoidal wave signals based on the plurality of trapezoidal wave signals; and a pulse width modulator for controlling the inverter through pulse width modulation by comparing the plurality of quasi-sinusoidal wave signals with a carrier wave signal.

2. The driving apparatus according to claim 1, wherein the quasi-sinusoidal wave modulator generates the plurality of quasi-sinusoidal wave signals from the differences among the plurality of trapezoidal wave signals.

3. The driving apparatus according to claim 1, wherein the quasi-sinusoidal wave modulator generates the plurality of quasi-sinusoidal wave signals from the sum of the plurality of trapezoidal wave signals.

4. The driving apparatus according to claim 1, wherein the quasi-sinusoidal wave modulator generates the plurality of quasi-sinusoidal wave signals by computing the total sum of the plurality of trapezoidal wave signals and adding the value obtained by subtracting the total sum from a zero level to the plurality of trapezoidal wave signals.

5. The driving apparatus according to claim 1, wherein, among at least two constant levels within one period, the widths of the maximum and minimum levels have an electrical angle substantially from 15° to 50°.

6. The driving apparatus according to claim 1, wherein, among at least two constant levels within one period, the widths of the maximum and minimum levels have an electrical angel of substantially 30°.

7. The driving apparatus according to claim 1, wherein the width of at least two constant levels within one period can arbitrarily be set.

8. The driving apparatus according to claim 1, wherein the trapezoidal wave modulator has a trapezoidal wave direct-current offset device, which generates a new trapezoidal wave signal by computing the total sum of the plurality of trapezoidal wave signals and synchronizing with the timing of the position sensing signal of magnetic pole so as to bring the value of trapezoidal wave signal close to the value obtained by subtracting the total sum from a zero level.

9. The driving apparatus according to claim 1, wherein the quasi-sinusoidal wave modulator generates a new quasi-sinusoidal wave signal by subtracting a half of the sum of the maximum and minimum values of the quasi-sinusoidal wave signal from the quasi-sinusoidal wave signal.

10. An inverter controller comprising: an inverter using direct current as input and alternating current as output; a trapezoidal wave modulator for generating a plurality of trapezoidal wave signals having at least two constant levels within one period based on a magnetic pole position sensing signal of an alternating-current motor; a quasi-sinusoidal wave modulator for generating a plurality of quasi-sinusoidal wave signals based on the plurality of trapezoidal wave signals; and a pulse width modulator for controlling the inverter through pulse width modulation by comparing the plurality of quasi-sinusoidal wave signals with a carrier wave signal.

11. A semiconductor apparatus for controlling an inverter, comprising a single chip, said single chip comprising an inverter using direct current as input and alternating current as output; a trapezoidal wave modulator for generating a plurality of trapezoidal wave signals having at least two constant levels within one period based on a magnetic pole position sensing signal of an alternating-current motor; a quasi-sinusoidal wave modulator for generating a plurality of quasi-sinusoidal wave signals based on the plurality of trapezoidal wave signals; and a pulse width modulator for controlling the inverter through pulse width modulation by comparing the plurality of quasi-sinusoidal wave signals with a carrier wave signal are mounted.

12. A semiconductor apparatus for controlling an inverter comprising two chips,

wherein the inverter using direct current as input and alternating current as output is mounted on one chip,

wherein a trapezoidal wave modulator for generating a plurality of trapezoidal wave signals having at least two constant levels within one period based on a magnetic pole position sensing signal of an alternating-current motor; a quasi-sinusoidal wave modulator for generating a plurality of quasi-sinusoidal wave signals based on the plurality of trapezoidal wave signals; and a pulse width modulator for controlling the inverter through pulse width modulation by comparing the plurality of quasi-sinusoidal wave signals with a carrier wave signal are mounted on the other chip.

13. A driving apparatus for an alternating-current motor comprising: an inverter using direct current as input and alternating current as output; an alternating-current motor driven by the alternating-current; a magnetic pole position detecting circuit for generating a magnetic pole position sensing signal of the alternating-current motor; a trapezoidal wave modulator for generating a plurality of trapezoidal wave signals having at least two constant levels within one period, wherein the widths of the maximum and minimum levels have an electrical angle of substantially 30° based on the position sensing signal; and a pulse width modulator for controlling the inverter through pulse

width modulation by comparing the plurality of trapezoidal wave signals with a carrier wave signal.